

REMARKS

After entry of the instant Amendment, claims 1-9 and 11-20 are pending in the instant application. Claim 10 was cancelled in a previous Amendment. Claims 1, 2, and 8 are amended merely to correct a typographical error moving the variable “y” inside the brackets “[].” More specifically, in these claims, the polymer formulas are amended to correct a misplaced “y” subscript and move the “y” within the brackets of the polymer formula. This amendment corrects the polymer formulas such that the compounds claimed are, in fact, polymers. Without the correction, the claimed polymers were not necessarily polymeric in the event that $y = 0$. In addition, paragraphs [0010]-[0012] of the specification are amended. Just as above, the polymer formulas in these paragraphs are amended to correct the “y” subscript. Thus, these amendments merely correct the polymer formulas already claimed and do not introduce new matter.

Further, claims 1 and 8 are amended to clarify the terminology “substantially free.” More specifically, this terminology refers to less than or equal to about 5 parts by weight of the reinforcing fillers per 100 parts by weight of the one or more polymers (i) and the treated kaolin (ii). This amendment finds support in paragraph [0020] on pages 6 and 7 of the specification as originally filed.

Claims 12-20 are added to define additional embodiments of the invention. Claim 12 more specifically defines the one or more polymers and the treated kaolin set forth in claim 1. Support for these claims is found in paragraphs [0034] and [0035] on page 10 of the patent application as originally filed. Claims 13-20 mirror dependent claims previously pending in this application. These amendments do not introduce new matter.

Rejection of Claims 1-9 and 11 Under 35 U.S.C. § 112 ¶ 2:

Claims 1-9 and 11 stand rejected under 35 U.S.C. § 112 ¶ 2 as being indefinite. More specifically, the Examiner contends that the claim terminology “substantially free” is unclear. As described above, the Applicant has amended claims 1 and 8 to remedy these rejections. Claims 2-7 and 11 depend directly from claim 1. Claim 9 depends directly from claim 8. In view of these amendments, the Applicant respectfully requests that the claim rejections be withdrawn.

Rejection of Claims 1-9 and 11 Under 35 U.S.C. §103(a) Over Joseph In View of Woerner

Claims 1 to 9 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Joseph et al. (U.S. Pat. No. 6,136,994) in view of Woerner et al. (U.S. Pat. No. 6,737,458). The Applicant disagrees with this combination of references and respectfully asserts that the instant invention is both novel and non-obvious.

The Examiner contends that the ‘994 patent teaches that clay treated with silanes can be used as a “filler” in silicone rubber compositions but that the ‘994 patent fails to teach the silicone rubber composition as claimed. To remedy this deficiency, the Examiner combines the ‘994 patent and the ‘458 patent. In making this combination, the Examiner goes on and contends that the ‘458 patent “teach[es] a silicone rubber composition that requires a *non-reinforcing filler* such as clay.” *emphasis added* The Applicant disagrees with this combination for many reasons as set forth below.

Reinforcing vs. Non-Reinforcing Fillers:

The Examiner quotes the top of column 1 of the ‘994 patent in support of her statement that the ‘994 patent teaches that clay treated with silanes can be used as a “filler” in silicone rubber compositions. However, what the Examiner fails to state is that the ‘994 patent specifies

that the filler is a “*reinforcing filler*” and not simply a generic filler. This teaching directly contradicts the teaching of the ‘458 patent, which is quoted by the Examiner herself. The Examiner quotes that the ‘458 patent requires use of a “*non-reinforcing*” filler. It is well known in the chemical arts that “reinforcing” fillers and “non-reinforcing” fillers are very different and cannot simply be substituted for each other. As is readily appreciated in the art, reinforcing fillers typically have a small particle size and are worked into polymer chains to provide strength to the polymer whereas non-reinforcing fillers typically have a larger particle size and usually do not serve to increase the strength of the polymer. The Examiner cannot simply substitute the teachings in the ‘994 patent of a reinforcing filler and the teachings in the ‘458 patent of a non-reinforcing filler for convenience to arrive at this invention. The fillers taught by the ‘994 patent are the opposite of the fillers taught by the ‘458 patent. It is incorrect and inappropriate to simply conclude that one of skill in the art would substitute these fillers for one another.

References Teaching Away from Each Other:

It is well settled law that it is improper to combine references where the references teach away from their combination.¹ Here, the ‘994 patent and the ‘458 patent teach away from each other relative to inclusion of fillers in silicone compositions. As described in detail above, these references teach inclusion of diametrically opposed fillers, i.e., reinforcing vs. non-reinforcing fillers, in silicone compositions. It is inappropriate for the Examiner to disregard these opposing teachings and conclude that one of skill in the art would make this combination. It simply would not happen.

¹ See *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983); See also MPEP §2145

The '994 Patent Teaches Away from the Instant Invention:

In addition, prior art references must be considered in their entirety, i.e., as a whole, including portions that would lead away from the claimed invention.² Here, the '994 patent teaches away from the instant invention. As set forth in the independent claims of this invention, and as described in detail throughout the specification, the instant composition is substantially free of "reinforcing" fillers. In direct contradiction to this requirement, the '994 patent discloses use of reinforcing fillers in silicone rubber compositions. As such, the '994 patent teaches the exact opposite of the instant invention. Thus, it is inappropriate for the Examiner to rely on such a reference.

Further, when the prior art teaches away from the claimed invention, obviousness cannot be proven merely by showing that a known composition could have been modified by routine experimentation or solely on the expectation of success.³ It must be shown that those of ordinary skill in the art would have had some apparent reasons to modify the known composition in a way that would result in the claimed invention.⁴ As described in detail above, it is well known in the chemical arts that "reinforcing" fillers and "non-reinforcing" fillers are very different and cannot simply be substituted for each other. In other words, no one of skill in the art would predictably substitute these types of fillers, expect any success in doing so, or have any apparent reason to do so. Accordingly, the Applicant again respectfully asserts that the combination of references is incorrect and that this invention is both novel and non-obvious.

No Predictability in Combining References:

As set forth by the *KSR* court, the analysis of obviousness follows a "functional approach" and must resolve "whether the improvement is more than the predictable use of prior

² See *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); See also MPEP §2141.02

³ See *Ex-parte Whalen*, Page 16; The Applicant acknowledges that this case is not precedential. However, this does not mean that the statement of the law cannot be considered by the Examiner and/or the Board. See Appeal 2007-4423; App. No. 10/281,142

⁴ *Id.*

art elements according to their established functions.”⁵ Here, it is absolutely unpredictable to combine a first reference focusing on use of reinforcing fillers with a second reference focusing on use of the opposite type of filler, i.e., non-reinforcing fillers. No one of skill in the art would predictably substitute diametrically opposite filler types and arrive at the instant invention.

Furthermore, no one of skill in the art would combine these references relative to the specific treated kaolin of the instant invention. First, the ‘994 patent only discloses a generic use of a “hydrophobic precipitated clay” for use in silicone compositions. This statement is entirely too broad and vague to support a combination with the ‘458 patent. There are hundreds of different clays that are known to those of skill in the art. This generic teaching would not predictably lead one of skill in the art to any other particular reference let alone a reference directed at kaolin.

In addition, the ‘994 patent does not distinguish between “hydrophobic precipitated clay” and “hydrophobic clay” thereby causing confusion to those in the art. This imprecise and vague reference to a broad category of clays further decreases any predictability of combining references and the also decreases the predictability of using a very specific treated kaolin. Still further, there are no examples at all in the ‘994 patent that suggest use of any type of treated kaolin in silicone compositions. This only adds to the generic nature of this reference and further suggests that it would be unpredictable and non-obvious to combine references.

No Reasonable Expectation of Success in Combining References:

In addition to the aforementioned arguments, it is also important to note that prior art references can be combined only if there is a reasonable expectation of success in doing so.⁶ The combination of references cannot render the art unsatisfactory for its intended purpose or change

⁵ See *KSR*, 127 S.Ct. at 1742, 82 USPQ2d at 1396.

⁶ See MPEP §2143.02

the principle of operation of the reference.⁷ Here, there is no reasonable expectation of success in combining these references or in substituting filler types because reinforcing and non-reinforcing fillers are diametrical opposites of each other. In addition, combination of these references would render the '994 patent unsatisfactory for its intended purposes and would change its principles of operation. The Examiner cannot appropriately conclude that use of non-reinforcing fillers is the same, or would be the same, as use of reinforcing fillers. As described in detail above, it is well known in the art that these types of fillers are physically different from each other, act differently when used in polymers, and produce different results. Therefore, the Applicant respectfully asserts that this combination of references, and the resulting substitution of filler types, cannot be made with any reasonable expectation of success.

Examiner's Conclusion Regarding Motivation:

The Applicant also disagrees with the Examiner's statement and conclusion regarding a motivation to combine these references. On page 2 of the instant Office Action, the Examiner concludes that one of skill in the art would have been motivated to select a clay from the '458 patent for use in the '994 patent. As described in detail above, and *as admitted by the Examiner*, the '994 patent discloses use of a "reinforcing" filler in silicone rubber compositions. The Applicant re-emphasizes to the Examiner that the instant composition is substantially free of "reinforcing" fillers. In addition, the '458 patent teaches use of non-reinforcing fillers. The Examiner cannot rely on a reference that explicitly focuses on reinforcing fillers. There certainly is no motivation to combine these references. Further, even if there was a motivation to combine the references, the resulting combination would include use of a reinforcing filler in a silicone composition which is the direct opposite of the instant invention and opposes the teaching of the '458 patent.

⁷ See MPEP §2143.01 for related standards relative to modification of prior art references

Rejection of Claims 1-9 and 11 Under 35 U.S.C. §103 Over Woerner In View of Cornelius or Joseph

Claims 1 to 9 and 11 stand under 35 U.S.C. § 103 as being unpatentable over Woerner et al. (U.S. Pat. No. 6,737,458) in view of Cornelius et al. (U.S. Pat. No. 4,677,141) or Joseph et al. (U.S. Pat. No. 6,136,994). The Applicant disagrees with this combination of references and respectfully asserts that the instant invention is both novel and non-obvious.

Here, the Examiner contends that the '458 patent discloses silicone rubber compositions that include surface treated clay but fails to teach kaolin surface treated clay. To remedy this deficiency, the Examiner combines the '458 patent with the '141 patent or, in the alternative, with the '994 patent. Relative to the combination of the '458 patent and the '994 patent, the Applicant reasserts all of the above arguments and re-emphasizes to the Examiner that these references cannot be appropriately combined.

The Applicant also respectfully asserts that the '458 patent cannot be appropriately combined with the '141 patent. Again, *as admitted by the Examiner*, the '458 patent focuses on use of "non-reinforcing" fillers. In direct contrast to this focus, the '141 patent is directed towards use of "reinforcing" fillers. As explained in great detail above, the Examiner cannot simply substitute reinforcing fillers and non-reinforcing fillers and make an obviousness argument. To restate the aforementioned arguments, the Applicant asserts the following regarding this combination:

- A. The '458 patent and the '141 patent teach away from each other due to the differences in types of fillers;
- B. The '141 patent teaches away from the instant invention;
- C. There is absolutely no predictability in combining references;

D. There is no reasonable expectation of success in combining references and substituting fillers; and

E. There is no motivation to combine references and substitute filler types.

The general rationale supporting these assertions is described in great detail above and mimics the rationale used to argue against the combination of the '994 and '458 patents. Thus, the Applicant maintains that the instant invention is both novel and non-obvious.

Teaching Away from the Instant Invention:

To further highlight the non-obviousness of this invention, the Applicant emphasizes to the Examiner that the '141 patent teaches away from the instant invention. The instant invention specifically limits the amount of reinforcing fillers present in the combination. In fact, the instant composition is substantially free of such reinforcing fillers and includes less than or equal to about 5 parts by weight of the reinforcing fillers per 100 parts by weight of the one or more polymers (i) and the treated kaolin (ii). As set forth in claim 1 of the '141 patent, that composition *requires* from 10 to 100 parts by weight of treated reinforcing silica filler. Clearly, this is different than the instant invention. In fact, it's the direct opposite of this invention. The instant invention seeks to limit (and in some embodiments eliminate) use of reinforcing fillers. Therefore, it is inappropriate for the Examiner to rely on a reference that requires use of reinforcing fillers. Accordingly, the Applicant respectfully asserts that this invention is both novel and non-obvious and requests that the claim rejections be withdrawn.

Unexpected Results of the Instant Invention:

Apart from the previous arguments, it is also totally unexpected that this invention achieves the results set forth in the instant Examples. To further emphasize this point, the Applicant directs the Examiner to review Col. 1, lines 23-30 of the '458 patent wherein

“expected” results are described. Generally, non-reinforcing fillers such as talc are unsuitable for use in silicone compositions for a variety of reasons. These “expected” results are negative and include considerable weight loss of the composition, cleavage of siloxane chains, catalysis of the formation of volatile compounds, and/or unsatisfactory heat stability of the composition. The instant invention contradicts what is expected and provides special results.

Simply stated, the treated kaolin of this invention has been found to be significantly more effective than almost all other possible fillers. As just one example, the treated kaolin provides reinforcement in the instant composition in the absence of reinforcing fillers such as silica. Fillers other than treated kaolin give unacceptably low reinforcement in the absence of silica. Thus, the instant invention provides special and unexpected results and is both novel and non-obvious over the prior art.

Conclusion

In view of the above, the Applicant respectfully submits that the claim rejections under 35 U.S.C. §§ 103 and 112 are overcome, and that all pending claims are both novel and non-obvious. Accordingly, the Applicant respectfully submits that all pending claims are in condition for allowance, and respectfully requests such allowance.

While it is believed that no additional fees are presently due, the Commissioner is authorized to charge the Deposit Account No. 08-2789, in the name of Howard & Howard Attorneys, P.C., for any fees or credit the account for any overpayment.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.

August 19, 2008

Date

/David M. LaPrairie/

David M. LaPrairie, Registration No. 46,295

The Pinehurst Office Center, Suite 101

39400 Woodward Ave.

Bloomfield Hills, MI 48304-5151

(248) 723-0442